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Optimal Culture Conditions for *In Vitro* Propagation of Hinoki Cypress (*Chamaecyparis obtusa* Sieb. et Zucc.)

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Objectives

We have tried to establishment of optimal culture conditions for efficient *in vitro* propagation of Hinoki cypress (*Chamaecyparis obtusa* Sieb. et Zucc.).

Materials and Methods

1. Plant material : Hinoki cypress (*Chamaecyparis obtuse* Sieb. et Zucc.) (Cupressaceae)

2. Methods :

Germinated plants were cultured on several basal media; MS, LP, WP, SH, NN, LS, B5 and White. All media contained 3% (w/v) sucrose and adjusted pH 5.7 before the autoclaving at 121°C for 15 min. Carbon sources were tested the sucrose, fructose and glucose at concentrations of 1, 3 and 5% (w/v) into medium. Shoot multiple propagation was carried out various concentrations of BA (1.0, 2.0, 3.0, 4.0 and 5.0 mg/L). Rooting was carried out WP basal medium. They were cultured under the 16/8 hour (light/dark) photoperiod at 25±2°C for 2 month.

Results and Discussion

The plantlets of *C. obtusa* were obtained from seed germinating on MS basal medium after 3 weeks of culture. Two factors – the various medium and carbon source – were optimized for *in vitro* culture of *C. obtusa*. The highest growth yield was achieved in WP medium, while the lowest growth yield was observed in White medium; each value was 113% and 46% GI (growth index), respectively. The effects of carbon source on plant growth were studied. When 1% (w/v) fructose was including medium, it was indicated the largest growth rate and rooting ability. Optimal propagation condition was 1.0 mg/L BA, which appeared adventitious shoot bud formation and proliferated on lower part. Propagated shoots were elongated in WP medium containing GA 0.5 mg/L. Roots were successfully obtained from WP basal medium after 3 weeks of culture.

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